

#### **In the Specification:**

Please amend the specification as shown:

Please delete the sequence on page 48, lines 7-11, and replace it with the following sequence:

	5	10	15	20	25	30	35
<b>32A KD</b>	FSRPG	LPVEY	LQVPS	PSMGR	DIKVQ	FQS GG	<b>ANSPA</b>
	40						
	LYLID						

(Sequence ID No. 28)

**Please delete the sequence on pages 49 and 50, and replace it with the following sequence:**

## **30 KD DNA SEQUENCE**

(Nucleotide sequence and encoded protein are SEQ ID NOS 35 and 161, respectively)

1/1 31/11  
 ATG ACA GAC GTG AGC CGA AAG ATT CGA GCT TGG GGA CGC CGA  
 met thr asp val ser arg lys ile arg ala trp gly arg arg  
 61/21  
 TTG ATG ATC GGC ACG GCA GCG GCT GTA GTC CTT CCG GGC CTG  
 leu met ile gly thr ala ala ala val val leu pro gly leu  
 91/31  
 GTG GGG CTT GCC GGC GGA GCG GCA ACC GCG GGC GCG  
 val gly leu ala gly gly ala ala thr ala gly ala  
 121/41 151/51  
 TTC TCC CGG CCG GGG CTG CCG GTC GAG TAC CTG CAG GTG CCG  
 phe ser arg pro gly leu pro val glu tyr leu gln val pro  
 181/61  
 TCG CCG TCG ATG GGC CGC GAC ATC AAG GTT CAG TTC CAG AGC  
 ser pro ser met gly arg asp ile lys val gln phe gln ser  
 211/71 241/81  
 GGT GGG AAC AAC TCA CCT GCG GTT TAT CTG CTC GAC GGC CTG  
 gly gly asn asn ser pro ala val tyr leu leu asp gly leu  
 271/91  
 CGC GCC CAA GAC GAC TAC AAC GGC TGG GAT ATC AAC ACC CGC  
 arg ala gln asp asp tyr asn gly trp asp ile asn thr pro  
 301/101

GCG TTC GAG TGG TAC TAC CAG TCG GGA CTG TCG ATA GTC ATG  
ala phe glu trp tyr tyr gln ser gly leu ser ile val met  
331/111 361/121  
CCG GTC GGC GGG CAG TCC AGC TTC TAC AGC GAC TGG TAC AGC  
pro val gly gly gln ser ser phe tyr ser asp trp tyr ser  
391/131  
CCG GCC TGC GGT AAG GCT GGC TGC CAG ACT TAC AAG TGG GAA  
pro ala cys gly lys ala gly cys gln thr tyr lys trp glu  
421/141 451/151  
ACC TTC CTG ACC AGC GAG CTG CCG CAA TGG TTG TCC GCC AAC  
thr phe leu thr ser glu leu pro gln trp leu ser ala asn  
481/161  
AGG GCC GTG AAG CCC ACC GGC AGC GCT GCA ATC GGC TTG TCG  
arg ala val lys pro thr gly ser ala ala ile gly leu ser  
511/171  
ATG GCC GGC TCG TCG GCA ATG ATC TTG GCC GCC TAC CAC CCC  
met ala gly ser ser ala met ile leu ala ala tyr his pro  
541/181 571/191  
CAG CAG TTC ATC TAC GCC GGC TCG CTG TCG GCC CTG CTG GAC  
gln gln phe ile tyr ala gly ser leu ser ala leu leu asp  
601/201  
CCC TCT CAG GGG ATG GGG CCT AGC CTG ATC GGC CTC GCG ATG  
pro ser gln gly met gly pro ser leu ile gly leu ala met  
631/211 661/221  
GGT GAC GCC GGC GGT TAC AAG GCC GCA GAC ATG TGG GGT CCC  
gly asp ala gly gly tyr lys ala ala asp met trp gly pro  
691/231  
TCG AGT GAC CCG GCA TGG GAG CGC AAC GAC CCT ACG CAG CAG  
ser ser asp pro ala trp glu arg asn asp pro thr gln gln  
721/241  
ATC CCC AAG CTG GTC GCA AAC AAC ACC CGG CTA TGG GTT TAT  
ile pro lys leu val ala asn asn thr arg leu trp val tyr  
751/251 781/261  
TGC GGG AAC GGC ACC CCG AAC GAG TTG GGC GGT GCC AAC ATA  
cys gly asn gly thr pro asn glu leu gly ala asn ile  
811/271  
CCC GCC GAG TTC TTG GAG AAC TTC GTT CGT AGC AGC AAC CTG  
pro ala glu phe leu glu asn phe val arg ser ser asn leu  
841/281 871/291  
AAG TTC CAG GAT GCG ~~TZ~~AC AAC GCC GCG GGC GGG CAC AAC GCC  
lys phe gln asp ala tyr asn ala ala gly gly his asn ala  
901/301  
GTG TTC AAC TTC CCG CCC AAC GGC ACG CAC AGC TGG GAG TAC  
val phe asn phe pro pro asn gly thr his ser trp glu tyr  
931/311  
TGG GGC GCT CAG CTC AAC GCC ATG AAG GGT GAC CTG CAG AGT  
trp gly ala gln leu asn ala met lys gly asp leu gln ser  
961/321  
TCG TTA GGC GCC GGC TGA  
ser leu gly ala gly OPA (Sequence ID No. 35)

Please delete the sequence on pages 50 to 53, and replace it with the following sequence:

**32 KD DNA SEQUENCE**

(Nucleotide sequence and encoded protein are SEQ ID NOS 36 and  
162, respectively)

1/1 31/11  
ATG CAG CTT GTT GAC AGG GTT CGT GGC GCC GTC ACG GGT ATG  
met gln leu val asp arg val arg gly ala val thr gly met  
61/21  
~~TCG CGT CGA CTC CTG GTC GGG GCC GTC GGC GCG GCC CTA GTG~~  
TCG CGT CGA CTC GTG GTC GGG GCC GTC GGC GCG GCC CTA GTG  
ser arg arg leu val val gly ala val gly ala ala leu val  
91/31 121/41  
~~TCGG GGT CTG GTC GGC GCC GTC GGT GGC ACG GCG ACC GCG GGG~~  
TCGG GGT CTG GTC GGC GCC GTC GGT GGC ACG GCG ACC GCG GGG  
ser gly leu val gly ala val gly gly thr ala thr ala gly  
151/51  
GCA TTT TCC CCG CCG GGC TTG CCG GTG GAG TAC CTG CAG GTG  
ala phe ser arg pro gly leu pro val glu tyr leu gln val  
181/61  
CCG TCG CCG TCG ATG GGC CGT GAC ATC AAG GTC CAA TTC CAA  
pro ser pro ser met gly arg asp ile lys val gln phe gln  
211/71 241/81  
AGT GGT GGT GCC AAC TCG CCC GCC CTG TAC CTG CTC GAC GGC  
ser gly ala asn ser pro ala leu tyr leu leu asp gly  
271/91  
CTG CGC GCG CAG GAC TTC AGC GGC TGG GAC ATC AAC ACC  
leu arg ala gln asp asp phe ser gly trp asp ile asn thr  
301/101 331/111  
CCG GCG TTC GAG TGG TAC GAC CAG TCG GGC CTG TCG GTG GTC  
pro ala phe glu trp tyr asp gln ser gly leu ser val val  
361/121  
ATG CCG GTG GGT GGC CAG TCA AGC TTC TAC TCC GAC TGG TAC  
met pro val gly gly gln ser ser phe tyr ser asp trp tyr  
391/131  
CAG CCC GCC TGC GGC AAG GGC GGT TGC CAG ACT TAC AAG TGG  
gln pro ala cys gly lys ala gly cys gln thr tyr lys trp  
421/141 451/151  
~~GAG ACC TTC CTG ACC ACC CAC CTC CCC GGG TGG CTC GAC CCC~~  
GAG ACC TTC CTG ACC AGC GAG CTG CCG GGG TGG CTG CAG GCC  
glu thr phe leu thr ser glu leu pro gly trp leu gln ala  
481/161  
AAC AGG CAC GTC AAG CCC ACC GGA AGC GGC GTC GTC GGT CTT  
asn arg his val lys pro thr gly ser ala val val gly leu  
511/171 541/181  
TCG ATG GCT TCT TCG GCG CTG ACG CTG GCG ATC TAT CAC  
ser met ala ala ser ser ala leu thr leu ala ile tyr his  
571/191  
CCC CAG CAG TTC GTC TAC GCG GGA GCG ATG TCG GGC CTG TTG  
pro gln gln phe val tyr ala gly ala met ser gly leu leu  
601/201  
GAC CCC TCC CAG GCG ATG GGT CCC ACC CTG ATC GGC CTG GCG  
asp pro ser gln ala met gly pro thr leu ile gly leu ala  
631/211 661/221

ATG GGT GAC GCT GGC GGC TAC AAG GCC TCC GAC ATG TGG GGC  
met gly asp ala gly gly tyr lys ala ser asp met trp gly  
691/231  
CCG AAG GAG GAC CCG GCG TGG CAG CGC AAC GAC CCG CTG TTG  
pro lys glu asp pro ala trp gln arg asn asp pro leu leu  
721/241 751/251  
AAC GTC GGG AAG CTG ATC GCC AAC ACC CGC GTC TGG GTG  
asn val gly lys leu ile ala asn asn thr arg val trp val  
781/261  
TAC TGC GGC AAC GGC AAG CCG TCG GAT CTG GGT GGC AAC AAC  
tyr cys gly asn gly lys pro ser asp leu gly gly asn asn  
811/271  
CTG CCG GCC AAG TTC CTC GAG GGC TTC GTG CGG ACC AGC AAC  
leu pro ala lys phe leu glu gly phe val arg thr ser asn  
841/281 871/291  
ATC AAG TTC CAA GAC GCC TAC AAC GCC GGT GGC GGC CAC AAC  
ile lys phe gln asp ala tyr asn ala gly gly gly his asn  
901/301  
GGC GTG TTC GAC TTC CCG GAC AGC GGT ACG CAC AGC TGG GAG  
gly val phe asp phe pro asp ser gly thr his ser trp glu  
931/311 961/321  
TAC TGG GGC GCG CAG CTC AAC GCT ATG AAG CCC GAC CTG CAA  
tyr trp gly ala gln leu asn ala met lys pro asp leu gln  
991/331  
CGG GCA CTG GGT GCC ACG CCC AAC ACC GGG CCC GCG CCC CAG  
arg ala leu gly ala thr pro asn thr gly pro ala pro gln

GGC GCC TAG  
gly ala AMB

(Sequence ID No. 36)

Please delete the header on page 52, line 12, and replace it with the following  
header:

**16 KD DNA SEQUENCE**

(Nucleotide and encoded protein are SEQ ID NOS 92 and 163,  
respectively)

Please delete the header on page 52, line 38, and replace it with the following  
header:

**58 KD DNA SEQUENCE**

(Nucleotide and encoded protein are SEQ ID NOS 93 and 164,  
respectively)

**Please delete the sequence on page 54, lines 1-38, and replace it with the following sequence:**

## 23.5 KD DNA SEQUENCE

(Nucleotide and encoded protein are SEQ ID NOS 94 and 165,  
respectively)

1/1 31/11  
GTG CGC ATC AAG ATC TTC ATG CTG GTC ACG GCT GTC GTT TTG CTC TGT TGT TCG GSGT GTG  
val arg ile lys ile phe met leu val thr ala val val leu leu cys cys ser gly val  
61/21 91/31  
GCC ACG GCC GCG CCC AAG ACC TAC TGC GAG GAG TTG AAA GGC ACC GAT ACC GGC CAG GCG  
ala thr ala ala pro lys thr tyr cys glu glu leu lys gly thr asp thr gly gln ala  
121/41 151/51  
TGC CAG ATT CAA ATG TCC GAC CCG GCC TAC AAC ATC AAC ATC AGC CTG CCC AGT TAC TAC  
cys gln ile gln met ser asp pro ala tyr asn ile asn ile ser leu pro ser tyr tyr  
181/61 211/71  
CCC GAC CAG AAG TCG CTG GAA AAT TAC ATC GCC CAG ACG CGC GAC AAG TTC CTC AGC GCG  
pro asp gln lys ser leu glu asn tyr ile ala gln thr arg asp lys phe leu ser ala  
241/81 271/91  
GCC ACA TCG TCC ACT CCA CGC GAA GCC CCC TAC GAA TTG AAT ATC ACC TCG GCC ACA TAC  
ala thr ser ser thr pro arg glu ala pro tyr glu leu asn ile thr ser ala thr tyr  
301/101 331/111  
CAG TCC GCG ATA CCG CCG CGT GGT ACG CAG GGC GTG GTG CTC AAG GTC TAC CAG AAC GCC  
gln ser ala ile pro pro arg gly thr gln ala val val leu lys val tyr gln asn ala  
361/121 391/131  
GGC GGC ACG CAC CCA ACG ACC ACG TAC AAG GCC TTC GAT TGG GAC CAG GCC TAT CGC AAG  
gly gly thr his pro thr thr tyr lys ala phe asp trp asp gln ala tyr arg lys  
421/141 451/151  
CCA ATC ACC TAT GAC ACG CTG TGG CAG GCT GAC ACC GAT CCG CTG CCA GTC GTC TTC CCC  
pro ile thr tyr asp thr leu trp gln ala asp thr asp pro leu pro val val phe pro  
481/161 511/171  
ATT GTG CAA GGT GAA CTG AGC AAG CAG ACC GGA CAA CAG GTA TCG ATA GCG CCG AAT GCC  
ile val gln gly glu leu ser lys gln thr gly gln gln val ser ile ala pro asn ala  
541/181 571/191  
GGC TTG GAC CCG GTG AAT TAT CAG AAC TTC GCA GTC ACG AAC GAC GGG GTG ATT TTC TTC  
gly leu asp pro val asn tyr gln asn phe ala val thr asn asp gly val ile phe phe  
601/201 631/211  
TTC AAC CCG GGG GAG TTG CTG CCC GAA GCA GCC GGC CCA ACC CAG GTA TTG GTC CCA CGT  
phe asn pro gly glu leu leu pro glu ala ala gly pro thr gln val leu val pro arg  
661/221  
TCC GCG ATC GAC TCG ATG CTG GCC TAG  
ser ala ile asp ser met leu ala AMB

(Sequence ID No. 94)

Please delete the header on page 54, line 39, and replace it with the following header:

**24 KD DNA SEQUENCE**  
**(Nucleotide and encoded protein are SEQ ID NOS 95 and 166,  
respectively)**

Please delete the paragraph on page 111, lines 11-16, and replace it with the following paragraph:

An N-terminal amino acid analysis of recombinant *Mycobacterium tuberculosis* 32A KD protein expressed and secreted by *Mycobacterium smegmatis* at 28°C gives the following sequence:

1                   6  
F S R P G   L P **(SEQ ID NO: 167)**